

## FR101 thru FR107

### 1.Feature & Dimensions

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* High temperature metallurgically bonded construction
- \* Diffused junction
- \* Capable of meeting environmental standards of MIL-S-19500
- \* 1.0 A operation at TA=55°C with no thermal runaway
- \* For use in high frequency rectifier circuits
- \* Fast switching for high efficiency
- \* Typical IR less than 1.0μA
- \* High temperature soldering guaranteed:  
260°C/10 seconds
- \* 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### 2.Mechanical Data

- Case:** JEDEC DO-41, molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.011 oz., 0.284 g  
**Handling precautin:**None

### 3.Electrical Characteristic

#### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	FR 101	FR 102	FR 103	FR 104	FR 105	FR 105P	FR 106	FR 107	FR 107P	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	600	800	1000	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	420	560	700	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	600	800	1000	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	1.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30									A
Maximum full load reverse current, full cycle average,0.375"(9.5mm) lead lengths at $T_A = 55^\circ\text{C}$	$I_{R(AV)}$	100									μA
Typical thermal resistance (Note 2)	$R_{\theta JA}$	55									°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150									°C

#### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	FR 101	FR 102	FR 103	FR 104	FR 105	FR 105P	FR 106	FR 107	FR 107P	Unit
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3									V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5.0 200									μA
Typical reverse recovery time (Note 1)	$t_{rr}$	150			250	150	500	250			ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	15									PF

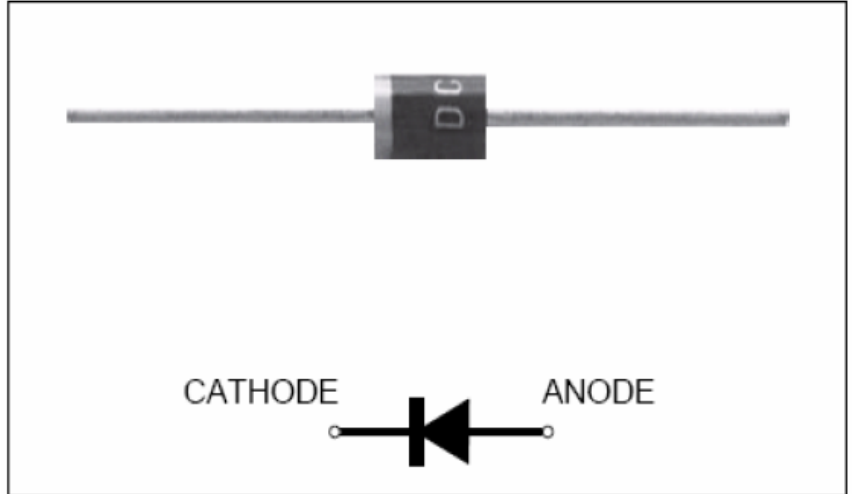
NOTES:

1.  $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

### Fast Switching Rectifiers

Reverse Voltage 50 to 1000V

Forward Current 1.0A



We declare that the material of product compliance with RoHS requirements.

### 4. Characteristic Curves ( TA = 25°C unless otherwise noted )

Fig. 1 - Forward Current Derating Curve

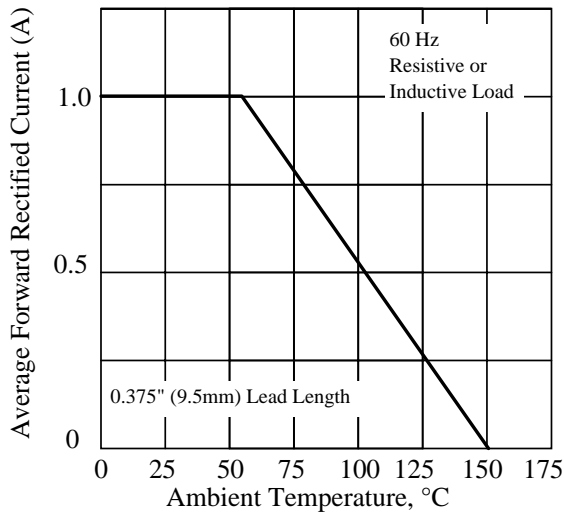


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

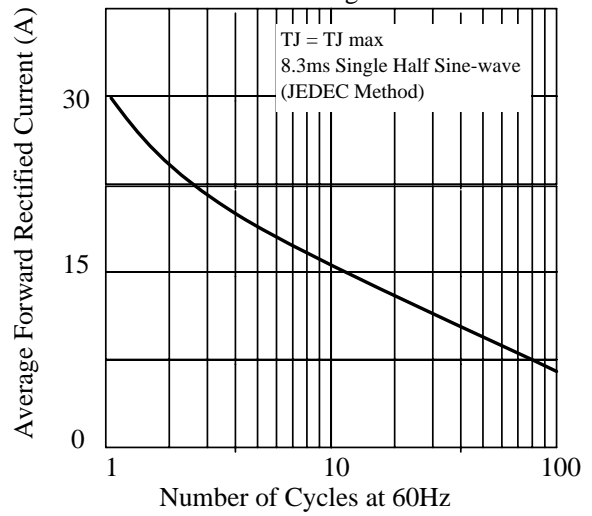


Fig 3. - Typical Instantaneous Forward Characteristics

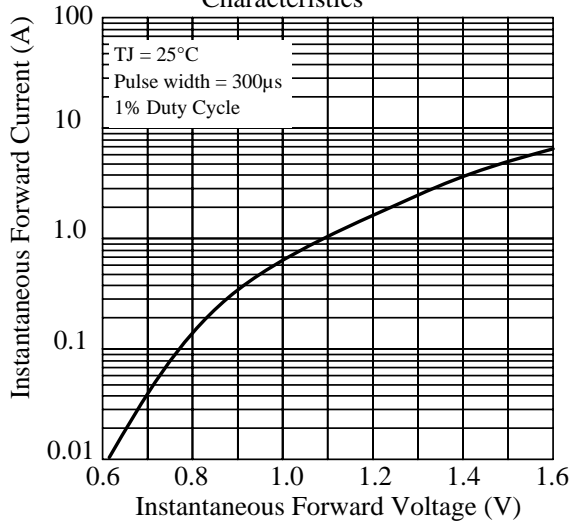


Fig 4. - Typical Reverse Characteristics

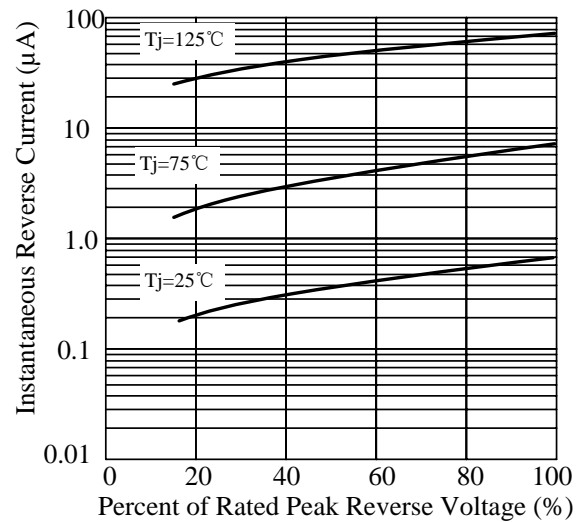


Fig 5. - typical transient thermal impedance

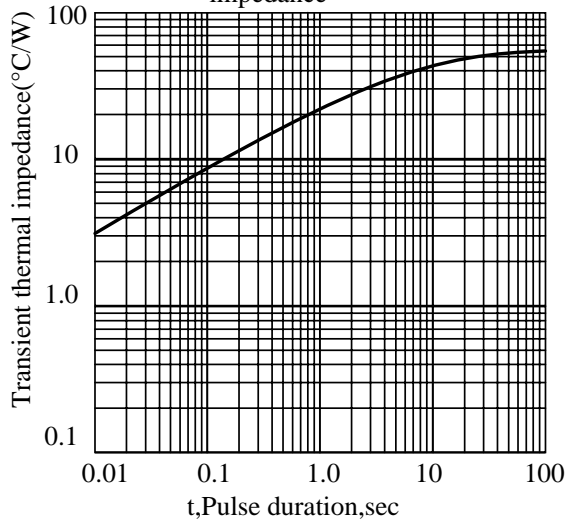
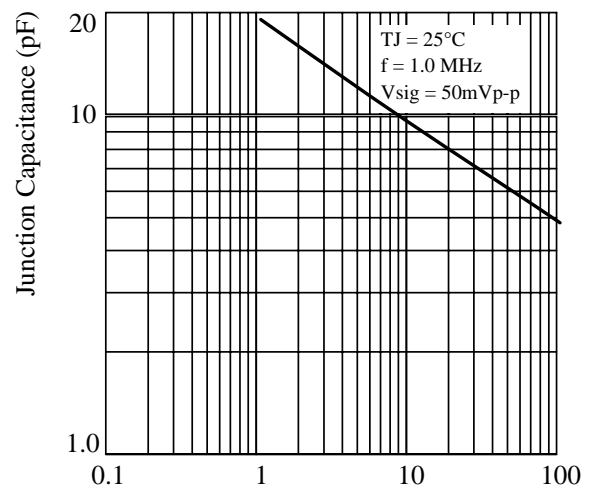


Fig 6. - Typical Junction Capacitance



**5.Package Dimensions in inches and (millimeters)**
